

WHAT IS CLAIMED IS:

1. A scanning electron microscope comprising:
  - an electron source for generating an electron beam;
  - a magnetic field type object lens for focusing said electron beam;
  - a detector arranged on an electron source side of a focused magnetic field of said object lens;
  - a negative voltage applying power source applying a negative voltage to a sample,
  - said object lens being formed for leaking a magnetic field toward a sample side,
  - said detector or a conductor plate emitting a secondary electron by collision of a reflected electron being arranged in a direction toward which said reflected electron emitted from said sample in a direction other than an opening of said object lens for passing said electron beam is deflected by an electric field formed between said sample and said object lens and said leaking magnetic field.
2. A scanning electron microscope as claimed in claim 1, wherein a plurality of said detectors are arranged at positions in axial symmetry with respect to an optical axis of said electron beam.
3. A scanning electron microscope comprising:
  - an electron source for generating an electron beam;
  - a magnetic field type object lens for focusing said electron beam;
  - a detector arranged on an electron source side of a focused magnetic field of said object lens;
  - an acceleration tube arranged between said sample and said detector and applied a positive voltage;
  - said object lens being formed for leaking a magnetic field toward a sample side,
  - said detector or a conductor plate emitting a secondary electron by collision of a reflected electron being arranged in a direction toward which

said reflected electron emitted from said sample in a direction other than an opening of said object lens for passing said electron beam is deflected by an electric field formed between said sample and said acceleration tube and said leaking magnetic field.

4. A scanning electron microscope as claimed in claim 1, wherein a plurality of said detectors are arranged at positions in axial symmetry with respect to an optical axis of said electron beam.

5. A sample image forming method forming a sample image based on an electron generated by scanning an electron beam focused by an object lens on a sample, comprising:

deflecting a track of a reflected electron reflected by a tilted portion on said sample toward a center of said object lens by forming a focused magnetic field in a region including said sample;

deflecting the track of the reflected electron reflected by the tilted portion of said sample toward said object lens by forming an electric field between said sample and said object lens; and

detecting said reflected electron passed through said object lens.

6. A method as claimed in claim 5, further comprising adjusting a light and a shade of a sample image by adjusting the electric field formed between said sample and said object lens.